

User Interface Design in Virtual Environments - Making Virtual Reality User Friendly



Project Title	User Interface Design in Virtual Environments - Making Virtual Reality User Friendly
Project Summary	Develop and test a generic, visual/audio user interface framework that enables individuals that are not familiar with virtual worlds or virtual reality interface devices to interact effectively with a virtual environment.
Country	United States

Project Description

At NIOSH, Virtual Reality (VR) is becoming a critical tool for research that allows the creation of dynamic, high fidelity virtual environments to do things that would otherwise be impossible, too costly, or too dangerous in the real world. With VR, our researchers can visualize invisible concepts and complex data, help to evaluate prototypes, and simulate dangerous or non-routine situations. We do this through data collection and visualization projects that include human subject data collection, iterative simulation, co-visualization applications, and training applications. When we do human subject data collections, we ask our subjects to interact with the virtual environment in various ways. Often time, our subjects are not be familiar with VR or VR interfaces. The ease of their interaction effects our data collections, so we need to provide an interface that the uninitiated can grasp intuitively. The interface can be visual (point and click), audio (speech recognition) or both.

Required Skills or Interests

Skill(s)
Coding
Data visualization
Design thinking
Graphic design
Research
Software development
Writing

Additional Information

This work is part of the CDC\NIOSH Mining program, based at the Bruceton Research Center, a large facility in the suburbs south of downtown Pittsburgh. You can learn more about the program at <https://www.cdc.gov/niosh/mining>. You will be working with a team of computer scientists, engineers, 3D modelers and social scientists that do research to improve the health and safety of workers in the US mining industries. Our facilities include our Virtual Immersion and Simulation Laboratory (VISLab - <https://www.cdc.gov/niosh/mining/content/facilities.html>). We build our virtual environments using the Unity game engine (<https://unity.com/>).

Language Requirements

None